UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,238	12/18/2000	Takao Shimizu	FUJR 18.085	4903

			EXAMINER
26304	7590	07/01/2004	MAIS, MARK A

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ART UNIT	PAPER NUMBER
2664	4

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.		Applicant(s)	
Office Action Summary	09/740,238		SHIMIZU, TAKAO	
	Examiner		Art Unit	
	Mark A Mais		2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.
2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-30* is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1-30* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on *18 December 2000* is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All   b) ☐ Some * c) ☐ None of:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____.
   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/18 December 2000*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgement is made of the claim for foreign priority under 35 U.S.C. 119(a)-

(d), and receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which

papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on December 18, 2000, was

filed together with the current Application. The submission is in compliance with the

provisions of 37 CFR 1.56 and 1.97. Accordingly, the examiner considered the

information disclosure statement.

Drawings

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that

which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or

corrected drawings are required in reply to the Office action to avoid abandonment of the

application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

5. Claims 1-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

6. With regard to claims 1, 11, and 21, they each recite the limitation "the frames" on

page 26, line 13; page 28, line 26; and page 31, line 15, respectively. There is

insufficient antecedent basis for these limitations in the claims. Examiner has interpreted

the term "the frames" as at least one of the "at least one the three types of frames"

disclosed in claim 1, page 26, line 10; claim 11, page, 28, lines 23-24; and claim 21, page

31, line 9. Appropriate correction is required.

7. Furthermore, claims 1, 11, and 21 also recite the limitation "transferred" on page 26,

line 13; page 28, line 26; and page 31, line 15. There is insufficient antecedent basis for

this limitation in the claim. Examiner has interpreted the term "transferred" as the

transfer of at least one of the "at least one of the three types of frames" that are

transferred from the input-side process to the output-side process. Appropriate correction

is required.

8. Claims 2-10, 12-20, and 22-30 are rejected as being dependent on rejected claims.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form

the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

10. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Jurkevich et al.

(USP 5,164,938).

11. With regard to claim 1, Jurkevich et al. discloses a communications apparatus **(Fig. 3**

EFPS 41 also shown in detail in Fig. 2) for communicating speech and data, the

apparatus comprising:

frame controlling means **(Fast Packet Switch (FPS), col. 9, lines 40-45; Figs. 2-**

4, Endpoint Fast Packet Switch (EFPS), Transit Fast Packet Switch (TFPS), col. 9,

line 54 to col. 10, line 2) for integrating speech frames **(col. 1, lines 25-34)**, being speech

signals made into frames, and data frames **(*Ibid.*)**, being data made into frames **(*Ibid.*)**,

into integrated frames **(*Ibid.*; 'composite frames', col. 3, lines 23-30)** and performing

routing control of the speech frames, the data frames, and the integrated frames **(Fig. 3,**

EFPS 41; shown in more detail in Fig. 2, wherein Subscriber Processing Unit (SPU) 28 and Universal Control Unit (UCU) 27 of Subscriber Line System (SLS) 25, col. 11, lines 44-50, route the frames through the switch fabric to the outgoing UPUs 36 and TCUs 37 of Trunk Line System (TLS) 26 col. Col. 10, lines 51-64);

input processing means for storing **(buffer and/or queue size is discussed for switches, col. 15, lines 36-57)** and managing at least one of the three types of frames of the speech frames, the data frames, and the integrated frames **(an EFPS can send multiple frames types, which are then parsed out and distributed to their respective destinations at the receiving EFPS, col. 14, lines 6-9; *see also* col. 17, lines 14-18, composite frames types are used in circuit/packet switch hybrid)**; and

output processing means for storing **(buffer and/or queue size is discussed for switches, col. 15, lines 36-57)** and managing the frames transferred **(an EFPS can send multiple frames types, which are then parsed out and distributed to their respective destinations at the receiving EFPS, col. 14, lines 6-9; *see also* col. 17, lines 14-18, composite frames types are used in circuit/packet switch hybrid)**, setting a bandwidth ratio of the frames dynamically **(Fig. 2, SPU 28 reserves bandwidth on the VCP through a channel request, col. 23, lines 5-9; col. 24, lines 34-54 discuss the bandwidth allocation rules; bandwidth seizing and corresponding rules are discussed for applications requiring more bandwidth than is currently available on one channel, col. 26, lines 10-32)**, and transmitting the speech frames, the data frames, and the integrated frames from on lines **(Figs. 11(a) through 11(d); col. 29, 21 to col. 31, line 13)**.

12. With regard to claim 11, Jurkevich et al. discloses a communications system for

communicating speech and data, the system comprising:

a telephone switching system **(Fig. 4, PBX 67)**;

network connecting device for performing a connecting process between

networks **(Fig. 4, Integrated Network Services (INS) 50)**; and

a communication apparatus comprising frame controlling means **(Fast Packet**

Switch (FPS), col. 9, lines 40-45; Figs. 2-4, Endpoint Fast Packet Switch (EFPS),

Transit Fast Packet Switch (TFPS), col. 9, line 54 to col. 10, line 2) for integrating

speech frames **(col. 1, lines 25-34)**, being speech signals made into frames **(*Ibid.*)**, and

data frames **(*Ibid.*)**, being data made into frames **(*Ibid.*)**, into integrated frames **(*Ibid.*;**

'composite frames', col. 3, lines 23-30) and performing routing control of the speech

frames, the data frames, and the integrated frames **(Fig. 3, EFPS 41; shown in more**

detail in Fig. 2, wherein Subscriber Processing Unit (SPU) 28 and Universal Control

Unit (UCU) 27 of Subscriber Line System (SLS) 25, col. 11, lines 44-50, route the

frames through the switch fabric to the outgoing UPUs 36 and TCUs 37 of Trunk

Line System (TLS) 26 col. Col. 10, lines 51-64);

input processing means for storing **(buffer and/or queue size is discussed for**

switches, col. 15, lines 36-57) and managing at least one of the three types of frames of

the speech frames, the data frames, and the integrated frames **(an EFPS can send**

multiple frames types, which are then parsed out and distributed to their respective

destinations at the receiving EFPS, col. 14, lines 6-9; *see also* col. 17, lines 14-18,

composite frames types are used in circuit/packet switch hybrid); and

output processing means for storing **(buffer and/or queue size is discussed for switches, col. 15, lines 36-57)** and managing the frames transferred **(an EFPS can send multiple frames types, which are then parsed out and distributed to their respective destinations at the receiving EFPS, col. 14, lines 6-9; *see also* col. 17, lines 14-18, composite frames types are used in circuit/packet switch hybrid)**, setting a bandwidth ratio of the frames dynamically **(Fig. 2, SPU 28 reserves bandwidth on the VCP through a channel request, col. 23, lines 5-9; col. 24, lines 34-54 discuss the bandwidth allocation rules; bandwidth seizing and corresponding rules are discussed for applications requiring more bandwidth than is currently available on one channel, col. 26, lines 10-32)**, and transmitting the speech frames, the data frames, and the integrated frames from on lines and connected to at least one of an office telephone interface line of the telephone switching system **(Fig. 4, PBX 76)**, an office data interface line of the network connecting device **(Fig. 4, LAN 75)**, and an interoffice trunk line **(Fig. 2, TLS 26; *see also* Figs. 11(a) through 11(d))**.

13. With regard to claim 21, Jurkevich et al. discloses a method for integrating speech and data for communicating by integrating and controlling speech and data, the method comprising:

the step of integrating speech frames **(col. 1, lines 25-34)**, being speech signals made into frames **(*Ibid.*)**, and data frames **(*Ibid.*)**, being data made into frames **(*Ibid.*)**, into integrated frames **(*Ibid.*; 'composite frames', col. 3, lines 23-30)**;

the step of an input-side process of storing **(buffer and/or queue size is discussed for switches, col. 15, lines 36-57)** and managing at least one of the three types

of frames of the speech frames, the data frames, and the integrated frames **(Fig. 2, SLS**

25 provides access and SPU 28 controls each type of line/frame, col. 10, lines 37-50);

the step of performing routing control of the speech frames, the data frames, and

the integrated frames **(Fig. 3, EFPS 41; shown in more detail in Fig. 2, wherein**

Subscriber Processing Unit (SPU) 28 and Universal Control Unit (UCU) 27 of

Subscriber Line System (SLS) 25, col. 11, lines 44-50, route the frames through the

switch fabric to the outgoing UPUs 36 and TCUs 37 of Trunk Line System (TLS) 26

col. Col. 10, lines 51-64); and

the step of an output-side process of storing **(buffer and/or queue size is**

discussed for switches, col. 15, lines 36-57) and managing the frames transferred **(an**

EFPS can send multiple frames types, which are then parsed out and distributed to

their respective destinations at the receiving EFPS, col. 14, lines 6-9; *see also* **col. 17,**

lines 14-18, composite frames types are used in circuit/packet switch hybrid), setting

a bandwidth ratio of the frames dynamically **(Fig. 2, SPU 28 reserves bandwidth on the**

VCP through a channel request, col. 23, lines 5-9; col. 24, lines 34-54 discuss the

bandwidth allocation rules; bandwidth seizing and corresponding rules are

discussed for applications requiring more bandwidth than is currently available on

one channel, col. 26, lines 10-32), and transmitting the speech frames, the data frames,

and the integrated frames from on lines **(Figs. 11(a) through 11(d); col. 29, 21 to col.**

31, line 13).

14. With regard to claims 2, 12, and 22, Jurkevich et al. discloses that the integrated

frames use the in-use speech frames and reallocates the rest of the frames (bandwidth

reservation/allocation) to data (col. 4, lines 33-43 wherein priority allocation is given to

higher priority traffic types (e.g., real-time voice or multimedia packets) and the

rest to lower priority traffic (e.g., low-priority Ethernet or IP packets)).

15. With regard to claims 3, 13, and 23, Jurkevich et al. discloses integrated frames

having higher priority fields based on connection-mode (e.g., establishing a virtual

channel (VC) and virtual path (VP)) over connectionless-mode traffic (e.g., Ethernet or

IP) (Fig. 6(a) wherein the payload type (PT) is given higher precedence over the VP

ID, col. 17, lines 37-41; and wherein the prioritized flow control (PFC) field contain

an 'A' bit indicating that flow control (e.g., connection-mode channel with real-time

voice or multimedia packets) is required and a 'B' and 'C' bit indicating that

presence or absence of specific channel types (e.g., low-priority Ethernet or IP

packets), col. 17, lines 5-27).

16. With regard to claims 4, 14, and 24, Jurkevich et al. discloses an information field for

controlling common lines (Fig. 6(a) wherein the payload type (PT) is given higher

precedence over the VP ID, col. 17, lines 37-41; and wherein the prioritized flow

control (PFC) field contain an 'A' bit indicating that flow control (e.g., connection-

mode channel with real-time voice or multimedia packets) is required and a 'B' and

'C' bit indicating that presence or absence of specific channel types (e.g., low-

priority Ethernet or IP packets), col. 17, lines 5-27).

17. With regard to claims 6-8, 16-18, and 26-28, Jurkevich et al. discloses that the

scheduling/routing of the frames are performed based on the frames **(the PFC bits are**

used for prioritization of data and flow control and interpreted as scheduling

information, col. 18, lines 38-52 (and discussion for claims 3 and 4; *see also* **col. 21,**

lines 10-35 discussing the absence of need for network management system (NMS)

control for priority levels, flow control, and congestion control).

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Jurkevich et al. in view of Tanaka et al.

19. Claims 5, 15, and 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Jurkevich et al. in view of Tanaka et al. (USP 6,070,201).

20. With regard to claims 5, 15, and 25, Jurkevich et al. does not specifically disclose

that the input side of the switch has two storage areas and switches storage areas every

cycle. It is known in the art to use multiple queues/buffers/memories on an input side

and to cycle through the queues/buffers/memories for flow control. Jurkevich et al.

discloses the use of integrated packets for transferring both data and voice frames/packets

(Abstract). Tanaka et al. discloses an input memory device for receiving packets into

multiple buffers/memory (Abstract). Moreover, multiple storage devices store data read

from input by sequentially switching the memory groups every cycle (col. 8, lines 53-58).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the

invention to transfer and receive the integrated packets of Jurkevich et al. by using

multiple queues/buffers/memories at the input side and switching the multiple

queues/buffers/memories every cycle in order to increase processing speed and packet

transfer efficiency (col. 1, lines 5-7).

Jurkevich et al. in view of Turner et al.

21. Claims 9, 19-20, and 29-30 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Jurkevich et al. in view of Turner et al. (USP 6,438,137).

22. With regard to claims 9, 19-20, and 29-30, Jurkevich et al. does not specifically

disclose that the output of identical frames is accomplished by sending one representative

frame and that the plurality of frames are recovered from one representative frame.

Turner et al. discloses using such a scheme. Jurkevich et al. discloses the use of

integrated packets for transferring both data and voice frames/packets (Abstract). Turner

et al. also discloses a communications system that aggregates both data and voice packets

for transfer along a communications line (col. 4, lines 41-53 and col. 4, line 67 to col. 5,

line 2). Specifically, Turner et al. discloses the identification, tagging and sending of one

representative frame and then the identification and multiple recovery of the

representative frame **(col. 8, lines 30-48)**. Thus, it would have been obvious to one of

ordinary skill in the art at the time of the invention to have combined the output and

recovery of identical packets disclosed in Turner et al. with the communications system

of Jurkevich et al. which transfers integrated data and voice packets or order to increase

packet transfer speed and reduce redundant processing of identical packets and increase

overall statistical and real efficiency **(col. 3, lines 45-63)**.

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure:

 (a) Nelson et al. (USP 5,164,938) Variable Bandwidth Switching. This reference

discloses variable bandwidths depending on the speech or data transfer speed.

 (b) Gugel (US Patent Application 2002/0099881) Method and system of data

transfer. This reference discloses multiple buffers for inputs that cyclically changed.

 (c) White et al. (USP 5,524,007) Network Interface Architecture for a packet

switch.

 (d) Adams (USP 5,142,532) Communication system.

24. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Mark A Mais whose telephone number is (703) 305-6959.

The examiner can normally be reached on 8:00-4:30.

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wellington Chin can be reached on (703) 305-4366. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

26. Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

June 17, 2004
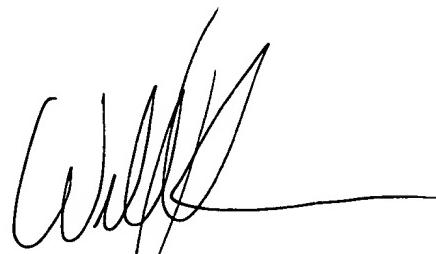
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